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UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

FEB 24 1984

Docket No. 50-412

MEMORANDUM FOR: Thomas M. Novak, Assistant Director
for Licensing, DL

FROM: Daniel R. Muller, Assistant Director
for Radiation Protection, DSI

SUBJECT: METEOROLOGY AND EFFLUENT TREATMENT BRANCH INPUT FOR THE DRAFT SAFETY EVALUATION REPORT PERTAINING TO THE BEAVER VALLEY UNIT NO. 2 FINAL SAFETY ANALYSIS REPORT

PLANT NAME: Beaver Valley, Unit No. 2
LICENSING STAGE: OL applicant
DOCKET NUMBER: 50-412
RESPONSIBLE BRANCH: LB#3; Lisa Lazo, PM
REVIEW STATUS: Draft SER input complete with some open items

Enclosed is the input to the draft Safety Evaluation Report (SER) regarding the meteorological and radiological effluent treatment sections of the Beaver Valley Unit 2 Final Safety Analysis Report. At this time, some additional information and analysis is required to close out several open items. These items are listed below:

Resp. to 220.3 Amend 4/30/03 6

1. Unresolved items in Section 2.3 are the rate of pressure drop for the design basis tornado, the 100-year return period snow pack, extreme temperature design of HVAC systems, representativeness of the location of the meteorological tower, and routine effluent release locations, characteristics and composition.

2. Section 6.5, ESF filtration systems, unresolved issue regarding testing of ESF filter systems.

3. Section 11.3, Gaseous Waste Processing Systems, unresolved issues pertaining to the containment vacuum system exhaust filtration (i.e., unsatisfactory iodine removal filtration system).

4. Section 15.7.3, radioactive release due to liquid tank failures, the staff is presently performing a verification analysis regarding dose consequences of a liquid radwaste tank or component rupture. This analysis will be completed by April 1984 for incorporation into the final SER.

5. Section 11.3, Gaseous Waste Processing Systems, the staff is presently performing a verification analysis for site boundary doses due to gaseous effluents. This analysis will be completed by April 1984 for incorporation into the final SER.

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This review was performed by Earl Markee (x27635), Meteorology Section, and Robert Fell (x27642), Effluent Treatment Systems Section, Meteorology and Effluent Treatment Branch. Please contact the respective reviewers for any questions.

Original signed by[illegible]

Daniel R. Muller, Assistant Director
for Radiation Protection
Division of Systems Integration

Enclosure:
As stated

cc: R. Mattson
W. Gammill
L. Lazo
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I. Spickler
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SURNAME	RWFell:dlj	EMarkee	ISpickler	CAWillis	WPGammill	DRMuller
DATE	02/24/84	02/24/84	02/24/84	02/24/84	02/22/84	02/24/84

Heavy snowfall is not uncommon in the region, and roof loads may accumulate due to a wintertime precipitation mixture of snow, ice, and rain. Maximum monthly snowfall observed at Greater Pittsburgh Airport was 1021 mm (40.2 inches) in January 1978, and the maximum snowfall in a 24-hour period at Pittsburgh was 373 mm (14.7 inches) in March 1962. Ice storms, which can plug drains and scuppers as well as disrupt offsite power, are relatively frequent. The applicant estimates that ice pellets or freezing rain may occur about 8 times per year in the Beaver Valley region, with a glaze accumulation of 0.5 inches or greater expected about once per year. The applicant has estimated the weight on the ground of the 100-year return period snowpack to be 19.5 psf. To determine the probable maximum snowload for consideration in the design of safety-related structures, the applicant has added the weight of the 48-hour probable maximum winter precipitation (equivalent to 71.2 psf) to the weight of the 100 year return snowpack for a total weight of 90.7 psf.

The staff's estimate of the snowpack based on ANSI 58.1-1982, extrapolated from the 50-year return period in the standard to a 100-year return period, produces a weight of near 30 psf. This snowpack weight, when added to the weight produced by the 48-hour probable maximum winter precipitation (about 70 psf) produces a design snowload of 100 psf. This will be an open issue only if the design of the Category I structures cannot accommodate a snowload of 100 psf. The acceptability of the applicant's design of safety related structures, with respect to the staff's estimate of design snowload and load combinations, is discussed in Section 3.8.1.

deleted for Standardization 4/93

Large-scale episodes of atmospheric stagnation occur in the region. About 41 atmospheric stagnation cases totaling at least 164 days were reported in the area in the period 1936-1975.

As discussed above, the staff has reviewed available information relative to the regional meteorological conditions of importance to the safe design and siting of this plant in accordance